



North Carolina Department of Environment and Natural Resources

Dexter Matthews, Director

Division of Waste Management

Beverly Eaves Perdue, Governor
Dee Freeman, Secretary

November 1, 2012

Sent Via Email – tbuck@toknc.com

Mr. Thad Buck
Town of Kernersville
Solid Waste Superintendent
P.O. Box 728
Kernersville, NC 27284

Re: Methane Gas Exceedances and Groundwater Contamination
Town of Kernersville Closed and Unlined MSW Landfill
Forsyth County, Solid Waste Section Permit Number 34-04
DIN 17561

Dear Mr. Buck:

The Solid Waste Section has completed a review of the *Landfill Gas Monitoring Report, Initial LFG Monitoring* dated September 27, 2012 (DIN 17330) and submitted on behalf of the Town of Kernersville by Joyce Engineering for the Town of Kernersville Closed and Unlined MSW Landfill located on Freeman Road. The *Landfill Gas Monitoring Report, Initial LFG Monitoring* was submitted in accordance with the Town of Kernersville's approved *Landfill Gas Monitoring Plan* dated July 17, 2012 (DIN 16924).

Based upon the September 26, 2012 landfill gas monitoring results at the landfill, methane gas exceedances have been documented at landfill gas monitoring wells GW-1, GW-2, and GW-3. All three landfill gas monitoring wells are located at the northern property boundary.

Pursuant to Solid Waste Management Rules 15A NCAC 13B .0503 (2)(a) - the concentration of explosive gases generated by the site shall not exceed: (i) twenty-five percent of the limit for the gases in site structures (excluding gas control or recovery system components); and (ii) the lower explosive limit for the gases at the property boundary. Because methane gas exceedances are documented at the property boundary, immediate methane action is required. Given the right conditions, methane gas has the potential to be a significant public health hazard. The dynamics that influence gas movement and migration vary. Methane gas concentrations can fluctuate widely depending on the conditions at the time they were measured. The Town of Kernersville is required to prevent the migration of methane gas at the property boundary.

As a result, ***within 30 days of receipt of this letter***, please submit a methane gas assessment plan for both the methane gas exceedances and the methane gas migration located to the north of the Town of Kernersville Closed and Unlined MSW Landfill. Once the Solid Waste Section reviews and approves the methane gas assessment plan, the approved plan should be implemented immediately. Please provide the results of the methane gas assessment within a summary report within 30 days of the completion of the assessment. Once the methane gas migration has been completely delineated, the Town of Kernersville

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will be required to submit a methane gas corrective action plan.

In addition, please begin monthly landfill gas monitoring at the landfill. The monthly monitoring should be initiated this month. Please submit the monthly landfill gas monitoring results via email to the Solid Waste Section (Attention: Jaclynne Drummond) within seven (7) days of monitoring utilizing the *Landfill Gas Monitoring Data Form* located within the Solid Waste Section's *November 2010 Landfill Gas Monitoring Guidance* (http://portal.ncdenr.org/c/document_library/get_file?uuid=da699f7e-8c13-4249-9012-16af8aefdc7b&groupId=38361).

Finally, within a Solid Waste Section letter dated October 18, 2010, the Town of Kernersville was required to submit a phased groundwater assessment plan within 90 days to continue to delineate the horizontal and vertical extent of the groundwater contamination at the landfill in accordance with 15A NCAC 2L .0106 (d)(1), 15A NCAC 2L .0106 (d)(2), the December 10, 1991 Closure Letter, the rules codified at 15A NCAC 13B Section .0500, *et. seq.*, .0600, *et. seq.*, and N.C.G.S. 130A-309.27. After the groundwater assessment is completed, groundwater corrective action may be required at the landfill. To date, the Solid Waste Section has not received a phased groundwater assessment plan. As a result, ***within 90 days of receipt of this letter***, please submit a phased groundwater assessment plan to continue the 1995 and 1996 groundwater assessment at the landfill as required within the rules.

If you have any questions or concerns regarding this letter, please feel free to contact me at 919-707-8294 or by email at jaclynne.drummond@ncdenr.gov. Thank you in advance for your anticipated cooperation with these matters.

Sincerely,



Jaclynne Drummond
Compliance Hydrogeologist
Solid Waste Section

cc via email: Mark Poindexter, Field Operations Supervisor
Jason Watkins, Western District Supervisor
Charles Gerstell, Environmental Senior Specialist
Van Burbach, Joyce Engineering